

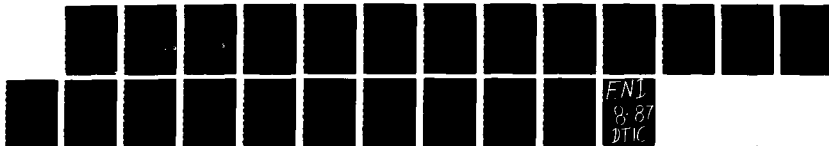
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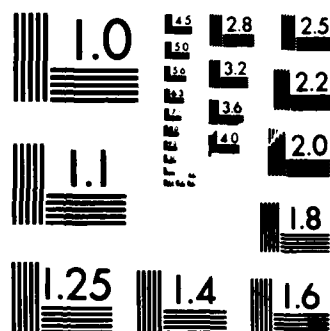
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Human Resources Research

DIFFERENCE^S IN PERFORMANCE SCHEMATA
AS A FUNCTION OF
ORGANIZATIONAL LEVEL

Roseanne J. Foti
and
Neil M. A. Hauenstein

May, 1987

TR-ONR-10

Texas A&M University
and
Virginia Polytechnic Institute

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A modified behavioral anchored scaling method was used to gather data in two law enforcement agencies. The goals of this study were to identify performance schemata for the position of patrol officer, and to assess how the schemata differed by organizational level (i.e., patrol officers versus their supervisors). Data were analyzed using repeated measures analyses of variance and discriminant analyses. Differences in performance schemata between organizational levels were tentatively identified. Findings were discussed in relation to the needs of the two agencies and in terms of general implications for rater training strategies.

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Differences in Performance Schemata as a Function of
Organizational Level

Abstract

The strategy of training raters to adopt the same evaluative standard has become a common practice in laboratory performance appraisal research. We felt that in the applied setting this "frame-of-reference" rater training strategy should be expanded to include the ratees' standards in order to clarify workers' understanding of organizational expectations. This study explored the necessary foundations for using this rater and ratee frame-of-reference training strategy. A modified behavioral anchored scaling method was used to gather data in two law enforcement agencies. The goals of the study were to identify performance schemata for the position of patrol officer, and to assess how the schemata differed by organizational level (i.e., patrol officers versus their supervisors). Data were analyzed using repeated measures analyses of variance and discriminant analyses. Differences in performance schemata between organizational levels were tentatively identified. Findings were discussed in relation to the needs of the two agencies and in terms of general implications for rater training strategies.

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To date the social cognitive approach to performance appraisal has not generated many innovations for applied practices. Banks and Murphy (1985) have even suggested that the social cognitive approach may be "widening the gap" between the laboratory and practice. However, the one practical notion emerging from this approach is the training of raters to adopt the same evaluative standard to use as the comparison for judging ratee performance. Such an evaluative standard represents a performance schema. Taylor and Crocker (1981) define a schema as a cognitive structure consisting of representations of some defined stimulus domain (in this case, the job in question). A schema contains general knowledge about the domain including a specification of the relationships among its attributes as well as specific examples or instances of the stimulus domain.

Under the rubric of frame-of-reference training, Bernardin and Buckley (1981) were the first to propose training raters to use the appropriate evaluative standard and recent laboratory studies have shown the potential utility of this strategy (McIntyre, Smith, & Hassett, 1984; Pulakos, 1984). The proposed advantage of frame-of-reference training is that teaching all raters to use the same evaluative standard would result in more accurate and consistent ratee evaluations.

In our opinion, there is another potential advantage to frame-of-reference training. Just as supervisors have their implicit notions about what successful and unsuccessful job performance entails so do the workers performing the job. If supervisors and workers differ significantly in terms of their evaluative schemata, it seems apparent that workers would view performance appraisal as an unfair and even arbitrary process (c.f., Landy, Barnes, & Murphy, 1978). Therefore, it

seems that practitioners attempting to use some variation of frame-of-reference training should not only train raters to adopt the same evaluative standard, but they should also train the workers to understand the standard by which supervisors are judging their performance.

The purpose of this paper was to explore the necessary foundations for the application of the strategy outlined above. This study was conducted within two law enforcement agencies contemplating using this rater and ratee frame-of-reference training. Our goals for the current study were two-fold. First, the generation of patrol officer performance schemata by both supervisors and patrol officers, and second, the assessment of how the schemata differed by organizational level. Recent research with the military has explored possible methods for generating performance schema (e.g., Foti, 1987), and the current study applied such methods for the identification of the patrol officer performance schemata. Concerning the issue of differences by organizational level, Landy, Farr, Saal, and Freytag (1976) provided general evidence that small but significant differences could be expected between performance expectations of patrol officers and their supervisors. We were concerned with identifying potential differences in two respects. First, to assess if disagreements in terms of judging specific performance incidents were associated with particular dimensions of performance. Second, to assess if the level of performance represented by the behavioral incidents moderated the occurrence of differences in the judgments between patrol officers and their supervisors (i.e., were differences in judgments to some degree a function of items representing below or above average performance).

Method

Subjects

Data were collected from a municipal police department and the surrounding county sheriff's department. All analyses were performed on the responses to the final phase questionnaire which was completed by 82 patrol officers and supervisors. The breakdown of subjects was: 42 city patrol officers, 19 city supervisors, 16 county patrol officers and 4 county supervisors. Supervisors from both organizations held the rank of sergeant and lieutenant and evaluated patrol officers on a regular basis.

Procedure

A modified behaviorally anchored scaling method was used to generate the performance schemata. The procedural modification was that no items were discarded throughout the procedure. Those items not meeting the allocation criterion were still used in the item scaling questionnaire and no anchor retention criterion was used because the purpose of this study did not involve the creation of a behaviorally anchored rating scale. At an initial conference with eight patrol officers and supervisors it was decided that the nine peer rating scales used by Landy, et. al. (1976, p. 752) were applicable to both agencies. At the next meeting, those eight police officers and two members of the research team generated 152 behavioral performance incidents. A subsequent sample of ten patrol officers and 10 supervisors participated in the allocation phase. A 60% criterion was used to allocate items to dimensions. With the number of items allocated per dimension in parentheses, the results of the allocation phase were: (a) job knowledge (13), (b) judgment (9), (c) use of equipment (7), (d) dealing with public (7), (e) reliability (26), (f) demeanor (14), (g) compatibility (23), (h)

communication (16), (i) work attitude (13). The 24 items not meeting the allocation criterion were placed on a dimension labeled "unassigned". The final phase was the standard item scaling questionnaire (i.e., subjects rated the level of performance each item represented for its assigned dimension). For the unassigned dimension subjects were informed that the items did not fit neatly into the other nine dimensions, but the ratings of the items were still needed. All items were rated on a 7-point scale from 1 (unsatisfactory) to 7 (excellent).

Dependent Variables

For all analyses, responses to the item scaling questionnaire served as the dependent variables. In order to explore possible differences between patrol officers and supervisors concerning perceptions of good and poor performance incidents, good performance items were analyzed separately from poor performance items. For each performance dimension, items with an overall sample mean of less than four were considered the poor performance incidents, and items with means greater than four were considered good performance incidents.

Analyses

Analyses were conducted in two phases. First, 2 (Level) X n (Item) repeated measures analyses of variance (ANOVA) were conducted for the good and poor incidents on each performance dimension. The Level factor represented patrol officers versus supervisors and Item represented the repeated measure factor of number of items. To achieve a clearer notion of the strength of the effects, the second phase of analyses involved a series of discriminant analyses that predicted organizational level from the responses to the item scaling questionnaire.

Results

Repeated Measures ANOVAS

Other than the main effects for the item factor (which simply meant some items were different than others), the 10 ANOVAS (one per dimension) for the good performance incidents provided only one significant effect.¹ The 12 good performance incidents on the reliability dimension exhibited a level by items interaction, $F_{\text{approx}}(11,69) = 3.22, p < .001$. Examination of the item means revealed that for six items, supervisors rated the incident higher than patrol officers, while the opposite pattern occurred for the other six items.

For the poor performance incidents a clear trend emerged. Results of the analyses appear in Table 1.² The level effect was significant for reliability and compatibility, and marginally significant for dealing with the public, work attitude, and unassigned. Also, there was a marginal level by item interaction for job knowledge. Disagreement was clearly greater for below average performance incidents. Examination of item means on these dimensions showed that close to 100% of the time, supervisors judged the performance incidents more stringently than the patrol officers. The interaction for job knowledge was caused by one item where patrol officers judged the incident much harsher than their supervisors.

In summary, the results demonstrated that in terms of dimensions, disagreement between organizational levels was greatest for reliability. More importantly though, the findings showed a clear trend for supervisors to judge poor performance incidents more stringently than their subordinates.

Discriminant Analyses

Next, 10 discriminant analyses (one per dimension) were run using individual items as predictors of organizational level. A stepwise method was used to select items into the equation based on their discriminating power. The criterion for entry was Mahalanobis distance which seeks to maximize the distance between groups (Cooley & Lohnes, 1971). The high agreement across levels for the dimensions of judgment, use of equipment, and communications resulted in nonsignificant discriminant functions. The results for the remaining seven dimensions are summarized in Table 2. While each of these dimensions provided significant discriminant functions, only reliability and the unassigned dimensions could accurately predict supervisors more than 50% of the time. Due to the relatively small number of available subjects, it was not possible to cross-validate the discriminant functions. However, the consistency of the results across all analyses suggests that the differences between organizational levels were not large, but they were meaningful.

Discussion

Results of the analyses were reviewed with four supervisors and one patrol officer. They felt that the findings accurately reflected differences between organizational levels. According to these officers, dimensions where agreement was high (e.g., judgment, use of equipment, communication) tended to be the performance dimensions heavily emphasized in the police academy training program. They also felt that dimensions where disagreement was high (e.g., reliability, unassigned, compatibility, work attitude) reflected two phenomena: (a) these performance dimensions (and behaviors for the unassigned dimension) were

not emphasized in formal training programs, and more importantly (b) they were performance dimensions where poor performance on the part of patrol officers would be salient to higher levels of the command chain and would probably cause negative perceptions about the supervisor's capability to lead their men/women.

The clearest example of this latter explanation was the reliability dimension. Examination of those behaviors where item means were most discrepant demonstrated a clear pattern. Patrol officers valued proper attendance behaviors (e.g., coming to work, being punctual, and proper work breaks) more positively than their supervisors. Supervisors saw them as more average, expected behaviors. Also, supervisors viewed improper attendance behaviors (excessive absenteeism, tardiness, etc.) more negatively than patrol officers.

At a more general level, the findings of this study hold many implications for performance appraisal research. First, our modified behavioral anchored scaling procedure appears to be a reasonable vehicle for generating a performance schema. However, it is not the only method (c.f., Borman, 1983; Lord, Foti, & DeVader, 1984). A key advantage of our method is the identification of meaningful performance behaviors where there is maximal disagreement (i.e., the unassigned dimension). As Nathan and Alexander (1985) suggested, the items retained on a traditional behaviorally anchored rating scale are probably the least informative due to the level of agreement necessary to be retained.

The current study also provides insight into where performance schema differences between supervisors and their workers are likely to occur. Future investigations should focus on two areas. First, ambiguous performance dimensions would be a good starting point. By

ambiguous we mean those dimensions in which content is naturally fuzzy (for example, work attitude) and/or those dimensions that are not emphasized during employee training and orientation. Second, further assessment is needed of the notion that disagreement is more likely to occur in relation to below average performance.

In conclusion, we propose that our rater and ratee variation of frame-of-reference training has potential utility in organizational settings. The current exploratory study has demonstrated a feasible method of meeting the prerequisites for this training strategy, namely, identifying detailed performance schemata and suggesting where differences between organizational levels occur. Future research is needed to assess, in organizational settings, the benefits of frame-of-reference training in terms of improved supervisor ratings, improved ratee performance, and improved satisfaction with the performance appraisal process for both supervisors and ratees.

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Author Notes

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Footnotes

¹ Item means and standard deviations are available from the second author.

² For parsimony, The item main effects were not reported in Table 1.

Table 1
Repeated Measures Analyses of Variance
for Poor Performance Incidents

Dimension:	Number of Items	Level F	Level X Item F approx.
Job Knowledge	5	2.43	2.26*
Judgment	4	1.59	.10
Use of Equipment	3	.17	1.29
Dealing With Public	5	3.55*	1.74
Reliability	14	3.95**	.98
Demeanor	4	2.64	1.87
Compatibility	12	5.86**	1.54
Communication	8	2.52	.71
Work Attitude	4	3.20*	1.28
Unassigned	13	3.18*	1.23

Note. N = 82.

* $p < .08$

** $p < .05$

Table 2
Summary of Discriminant Analyses

	Wilks λ	χ^2	D.F. ^a	Canonical Correlation	Classification Accuracy	
					Supervisors	Patrol Officers
<u>Dimensions:</u>						
Job Knowledge	.76	20.77**	8	.49	44%	90%
Dealing with Public	.85	12.64*	5	.39	26%	92%
Reliability	.57	41.00***	10	.65	70%	90%
Demeanor	.84	12.70*	5	.39	18%	97%
Compatibility	.79	17.89**	4	.46	26%	92%
Work Attitude	.77	19.48**	6	.48	44%	86%
Unassigned	.63	32.51***	12	.61	57%	86%

Note. N = 82.

^adegrees of freedom also represent the number of items retained in the predictor equation.

* $p < .05$

** $p < .01$

*** $p < .001$

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